PROPOSAL

Wide Area Preliminary Assessment
for the Waters and Lakebed Sediments
of Lake Michigan Adjacent to the
FBI Firearms Training Facility in
North Chicago, Illinois

14 January, 2008

Prepared by:

James Barton, President
Underwater Ordnance Recovery Inc.
P.O. Box 14003
Norfolk, VA. 23518
(757) 451-8545
jamesbarton@uwuxo.com

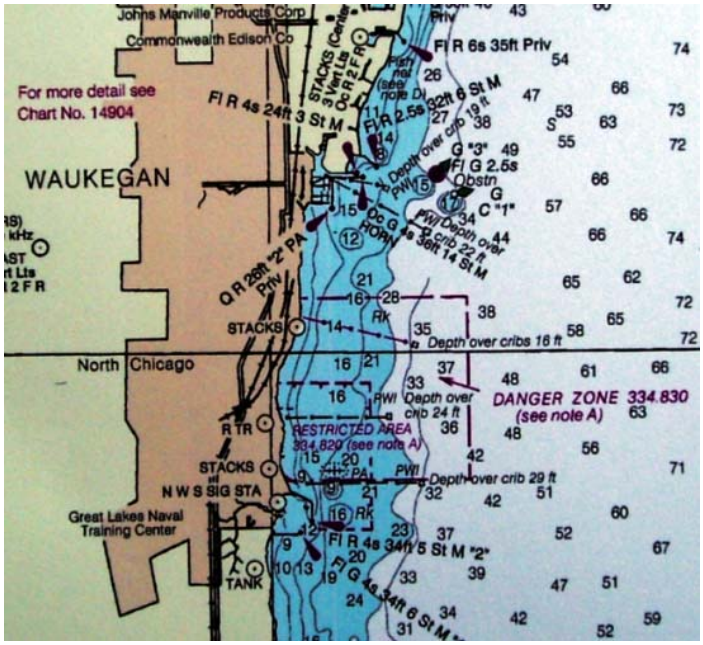
INTRODUCTION: This proposal for a wide area environmental assessment of the waters and lakebed sediments of Lake Michigan adjacent to the FBI Firearms Training Facility in North Chicago, Illinois has been prepared at the request of:

Steven B. Pollack
Blue Eco Legal Council
3390 Commercial Ave.
Northbrook, Illinois 60062
(847) 436-9566
steve@ecoesq.com

PURPOSE AND GOALS: This wide area assessment will produce a realistic site specific evaluation to guide the plan for removing lead bullets and artillery discharged since 1918 onto the Lake Michigan lakebed outside North Chicago, IL. Because the purpose of this assessment is to guide the subsequent removal action, the current environmental damage to natural resources at the site will be assessed to a lesser extent. This assessment will therefore evaluate environmental quality as a measurement for removal completeness.

The goal of this assessment is to map the lead bullets discharged onto the Lake Michigan lakebed for both horizontal spread and vertical stratification in order to produce a subsequent removal action. This removal action is described in a second document titled: Proposed Plan for Removal of Lead Bullets and Artillery from Lake Michigan Lakebed at North Chicago, IL.

SITE LOCATION: The area which comprises the central focus of this assessment is 2,975 acres of water and lakebed sediments adjacent to the FBI Firearms Training Facility in North Chicago, Illinois generally outlined by, *but not limited to,* the "danger zone", as described in;



United States Coast Pilot 6 Great Lakes and their connecting waterways 2007
§334.830 Lake Michigan; small-arms range adjacent to United States naval training Center, Great Lakes, Ill.

(2364)(a) *The danger zone*. An

> area bounded on the north by latitude 42˚20'30"; on the east by longitude 87˚47'30"; on the south by latitude 42˚18'45"; and on the west by the shore line.

According to documents obtained from the FBI, the 2,975 acres represents the FBI's assessment of the area "in Lake Michigan that provides the impact area for the firing range". Based on similar facilities our company is familiar with around the United States, **we believe this site contains a significant but unknown quantity of lead bullets and high explosive filled projectiles, the result of live fire training exercises emanating from nearby shore facilities conducted over nine decades.**

METHODOLOGY:

Research - A modest amount of archival and scientific research will be conducted in an attempt to identify:

- The type and quantity of projectiles used in this area
- The role of large storms in sediment and material transport, particularly in the near shore areas where lead bullets are concerned, and the outer near shore zone (5 to 25 m) where larger projectiles may be affected.

Sediment Sampling Protocol

- 3" core grabs will be used to collect sediment samples from which analytical data on bullet concentration can be generated. Each vessel used for sediment grabs will be sufficient to allow one senior technician, one junior technician, and a member from the Government, should they wish to participate in the testing.
- The initial assessment will result from a sampling protocol which utilizes a lattice design of one sample per acre, from which isopleths will be constructed.
- Further sampling will be conducted in an adaptive sampling design that is sensitive to areas with elevated densities of munitions and or their constituents. This secondary sampling protocol will specifically assess the threat level from different "hot spots".
- No less than 3200 total sediment samples will be collected.
- No less than 100 water samples will be evaluated for the presence of lead and explosives using chemical sensing technology having an analytical limit of 1 part per billion, and will be used to verify the sediment lead and explosive residual concentrations before and after the removal action.

Analytical Protocol

- The sediment grabs will then be sent for laboratory testing to determine the number of lead bullets in the sample and their vertical stratification.
- The sediment and other grabbed material will then be tested for uptake of lead

and explosives as outlined in Chapter 4, “Explosive and Heavy Metal Analysis - Radiological, Chemical, and Environmental Health Assessment of the Ilsa de Vieques Bombing Range, Bahia Salina del Sur, Puerto Rico” March 8, 2004

COST: This wide area preliminary assessment has a total cost of $8,200,000.

Payment Schedule

- Due upon initiation of contract $3,000,000
- Due upon Collection of first 1,000 sediment grabs $2,000,000
- Due upon Collection of second 1,000 sediment grabs $1,700,000
- Due upon completion of final 1,200 sediment grabs $1,000,000
- Due upon completion of wide area assessment $ 500,000

QUALIFICATIONS: Underwater Ordnance Recovery Inc. (UOR) operates on the leading edge of non-destructive removal of military munitions and defense wastes from underwater ranges through the use of robotics. President James Barton is a commercially certified professional diver, qualified in surface supplied air/mixed gas, and bell/saturation diving. A former US Navy Diver and Explosive Ordnance Disposal Technician, he provided advanced EOD underwater munitions response training to US Navy Fleet EOD assets worldwide, is a qualified Master Training Specialist, Curriculum Developer, and Small Arms Master Instructor, and achieved the rank of petty officer first class.

UOR began in 1999 upon the retirement of Mr. Barton, from US Naval Explosive Ordnance Disposal Mobile Unit Two, Norfolk, VA. Mr. Barton began his career in 1975 by joining EOD Mobile Unit One in Hawaii, where he first encountered large numbers of Underwater Unexploded Ordnance (UWUXO).

Through innovative technology, UOR makes large scale UWUXO remediation operations a practical and cost effective alternative to abandonment.

- Graduate of US Naval School - Explosive Ordnance Disposal, Indian Head, MD.(Oct. 1989)
- Developer of remotely operated Ordnance Recovery System (ORS)
- Developer of the Sea Harvester™, a mobile munitions recovery system adaptable to Lake Michigan underwater environment
- Expert on domestic and internationally recognized “zero emissions” ordnance disposal systems
- Steering Committee Member, *First International Conference on Sea Dumped Munitions*, Halifax, Nova Scotia (Oct., 2007)
- Session Chair, *Shipwrecks in the Baltic Sea*, US/Baltic International Symposium, Klaipeda, Lithuania (May, 2006)
- Developer of underwater demining protocol for Bosnia/Herzegovina (Nov., 2005)

- Project Manager, *Radiological, Chemical, and Environmental Health Assessment of the Marine Resources of the Isla de Vieques Bombing Range*, Bahia Salina del Sur, Puerto Rico (Mar., 2004)
- Subject Matter Expert on Abandoned Underwater Ordnance, Address to the Presidential Panel Investigating the Vieques Island Bombing Range (Aug., 1999)